

USAWC STRATEGY RESEARCH PROJECT

**AMERICA'S INTERNATIONAL PORTS AND INTERMODAL  
TRANSPORTATION SYSTEM: ILL-PREPARED FOR BIOLOGICAL  
WEAPONS OF MASS DESTRUCTION**

by

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## **ABSTRACT**

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Hurricane Katrina on August 29, 2005 was an alarming wake-up call on how unprepared America is for a national disaster. Whether a natural disaster as Katrina, or a bioterrorism disaster as September 11, homeland defense is our nation's top issue in the 21st century. This paper focuses on the state of bioterrorism preparedness in America's international ports. It reviews America's ability to assess, counter, and respond to weapons of mass destruction (WMD), specifically biological weapons.

America's international ports, based on Katrina's impact on New Orleans and the terrorist attacks of 9/11, are ill-prepared for disasters. Current strategic plans for the international ports are inadequate. Local agencies have not worked with states, and states have not worked regionally or nationally to provide security for Americans living in port cities. To close the gap between the threat and the capability of coping with the threat will require collaboration on the assessment and development of a strategy for disasters. Federal, state, and local agencies must ensure citizens of their readiness for a national disaster. A coherent strategy for assessing, countering, and responding to weapons of mass destruction is essential. This strategic framework must be rooted in the National Strategy for Homeland Security.



## AMERICA'S INTERNATIONAL PORTS AND INTERMODAL TRANSPORTATION SYSTEM: ILL-PREPARED FOR BIOLOGICAL WEAPONS OF MASS DESTRUCTION

Bioterrorism is a real threat to our country. It's a threat to every nation that loves freedom. Terrorist groups seek biological weapons; we know some rogue states already have them...It's important that we confront these real threats to our country and prepare for future emergencies.<sup>1</sup>

—President George W. Bush June 12, 2002

### Background

If compelled to find a lesson learned from the tragic events of 9/11, one might assert that the aerial attacks have forced America to examine its vulnerabilities. Events of 9/11 and the subsequent threat of anthrax attacks quickly accented and brought center stage America's vulnerabilities, prompting the impetus to further strengthen preparedness and response efforts. In the four years following, America has set out to assess threats and implement drastic steps to counter, prevent, disrupt, and destroy terrorist operations and respond to other possible attacks. Cases in point: President Bush has redefined the American government with the creation of the Department of Homeland Security, appropriating billions of dollars into new initiatives focused on fortifying societal infrastructures against the attacks of terrorists, and lastly, and most dramatically, two wars are currently being fought overseas. These drastic measures serve to establish the foundation for unrelenting vigilance. Unfortunately, Americans have been forced to react to the threats of terrorism with both "treasure and blood."

Little doubt exists that port security of the early 21st century is an area of increased risk. In any given week, one needs only to open the newspaper to learn about countries such as North Korea and Iran developing weapons of mass destruction or of terrorist attacks in countries such as Bali, Egypt, Spain, and Britain, to name a few. Several explanations offer insight into the recent increase and success of terrorist activity, but the most viable explanation is the technological advancements in communication and transportation, spurring advantages and new opportunities for terrorist activities. Improvements in technology and transportation most notably have connected all parts of the world. Moreover, with the ease of extensive overseas travel available, terrorists can travel by land, air, and sea and easily infiltrate any society.

Furthermore, with the multitude of new innovations, technological advancements have allowed for the creation of more efficient and deadlier weapons. In light of these developments, terrorism and flawed maritime security is increasingly becoming a real and worrisome threat to America's ports. The maritime domain in particular presents not only a medium by which these threats can move, but offers a broad array of potential targets that fits the terrorists' operational

objectives of achieving mass casualties and inflicting catastrophic economic harm.<sup>2</sup> To stay ahead of these threats, it is paramount that our national ports are prepared.<sup>3</sup>

#### U.S. Port Activity

Maritime transportation depends on 361 American ports for ingress and egress of 95 percent of United States overseas trade. Bulk cargo, containerized cargo, passenger transport, and tourism are all integral to port activity, and this activity is not declining. The volume of this imported and exported trade through United States ports is expected to double over the next twenty years. Currently, fifty ports in the United States account for approximately 90 percent of all the cargo tonnage shipments while twenty-five ports account for 98 percent of all container shipments.<sup>4</sup> Ships are the primary mode of transportation for world trade, carrying 80 percent of the world trade by volume.

This tremendous flow of goods creates many kinds of vulnerability. Drugs and illegal aliens are routinely smuggled into the country, not only in small boats but also hidden among otherwise legitimate cargoes on large commercial ships. These same pathways are available for exploitation by a terrorist organization or any nation or person wishing to attack us surreptitiously.<sup>5</sup>

The United States is the world's leading maritime trading nation, accounting for 20 percent (tonnage) of the annual world ocean-borne overseas trade and accounting for 25 percent of the U.S. Gross Domestic Product (GDP), up from 11 percent in 1970.<sup>6</sup> With approximately 7,500 foreign ships entering America's ports each year, the security of America's ports is critical. This intense activity sets America's ports up as major targets of terrorist groups and further puts American citizens at risk in the beautiful port cities that frame the continental United States. The access to our ports is only one potential threat posed by terrorists.

While no two ports in the United States are exactly alike, each port has unique characteristics that increase or decrease its susceptibility to an attack. The job of the local officials is to assess these risks and formulate preparedness plans serving to best protect its citizens. To help the ports reduce their vulnerabilities, federal agencies have attempted to outline the critical elements of preparedness and have pledged billions of dollars in grants to aid in their implementation. State and local officials in turn must use this information as a foundation and assess, counter, and respond by tailoring a specific plan that best fits their community. Awareness and preparation are vital.<sup>7</sup>

Our newly found, albeit forced, vigilance must be combined with a rational and realistic response to these threats. It is not possible to prepare for an attack everywhere, and sensationalizing the real danger would be wasteful in time, energy, money, and the lives of

Americans. This paper examines the known biological threats to America's international ports and intermodal transportation, explains these threats, and discusses how these ports can seek to close the gap between the threats and the capability to respond to them. Assessing, countering, and responding to terrorist threats are key to a successful strategic plan for national security.

#### Possible Scenarios

Many security experts are concerned about a variety of terrorist threat scenarios at U.S. ports. At the top of their list is the use of commercial cargo containers to smuggle in terrorists themselves; smuggle nuclear, chemical, or biological weapons or components thereof; or transport other dangerous materials, any of which could cause thousands of casualties on U.S. soil, resulting in devastating effects on America's economy, or causing large-scale environmental damage. Determining where critical vulnerabilities exist is the challenge the United States Department of Homeland Security faces; properly eliminating the vulnerabilities in order to prevent them from being exploited is essential.

If a biological terrorist attack were to occur in an American port, such as Miami, Boston, New York, or Charleston, the following scenarios portray events that could evolve.

#### Prologue-4 January

*This is a CNN special report. This just in. The Centers for Disease Control has just declared that an epidemic is widespread in Miami, Florida. Doctors have not yet diagnosed the specific cause of the rampant disease, but the illness initially resembles a chest cold that progresses into pneumonia-like symptoms. It then progresses rapidly into fever and shortness of breath. What is especially peculiar about this epidemic is that all the patients who have sought medical attention attended the Orange Bowl football game on New Year's Day. Authorities have asked that anyone who went to that game seek medical care if cold-like symptoms appear. Stay tuned to CNN for further developments on this story. Elsewhere in the news...*<sup>8</sup>

#### Epilogue-9 January

*This is a CNN special report live from the Anthrax Task Force Center Miami. This morning, the fatality count was 16,437. This grim figure was just given to us by doctors here. Unfortunately, they say the number is going to increase dramatically because so many patients are close to death right now. Doctors are working frantically to save as many as possible, but they are running out of antibiotics and facing massive overcrowding. The halls are crowded with*

gurneys, and relatives are being asked to wait outside unless their loved one is critical. And there are many of those.

*The Anthrax Task Force was quickly assembled on the sixth of January after doctors across the nation diagnosed the horrible epidemic as pulmonary anthrax. The Federal Emergency Management Agency heads the team that consists of representatives from the FBI, the Centers for Disease Control and Prevention, the Armed Forces Military Intelligence Center, and the US Army Medical Research Institute of Infectious Diseases, to name just a few. They are warning anyone who attended the Orange Bowl on New Year's Day to seek medical attention immediately. If you are experiencing cold-like symptoms, you are probably infected. Do not hesitate, or it will be fatal. The FBI reports that this appears to be a deliberate act of mass murder. But that is all they have been able to determine. They are offering a ten million-dollar reward for any information about this horrendous crime.*

*This is all from Miami. Back to CNN News Headquarters.<sup>9</sup>*

Retired Secretary of Homeland Defense Tom Ridge recently declared that a future terrorist attack with a contagious biological agent is his greatest fear.<sup>10</sup> His fears seem justified when one considers that some experts predict that 130,000 to 3 million people could die in an urban, airborne, anthrax attack.<sup>11</sup> These frightening statistics illuminate the extreme threat of biological weapons. Furthermore, the global environment of the 21<sup>st</sup> century is so different from the past that, as a result, the threat of biological warfare is an ever-emerging threat.

#### Assessing U.S. Ports' Vulnerability

Before an assessment of the current capabilities for responding to a threat is considered, the entities that are most likely to use biological weapons will be introduced. First, the most likely source of biological weapons production is countries. The 1972 Biological Weapons and Toxins Convention (BWC) allowed countries to maintain a biological program for research and defense purposes. However, "research and defense" is an ambiguous concept and permits a country secretively to expand their programs. Today, the number of countries with biological capabilities has increased to possibly include up to 20 countries.<sup>12</sup> Nations are the most likely source of bio-weapons production in that they have the money, expertise, and infrastructure to support a program. However, as far as the usage of weapons, states are not that likely to be the initiators of a large-scale attack. The global repercussions of such an attack would be overwhelming and are likely to deter any attack from occurring. However, a big concern is the transfer of information and weapons from these countries to entities that are not deterred by the



repercussions. These entities may be large terrorist groups who may not have an established "land" but have far-reaching global capacities.

Thus, the second source of concern is the large, well-funded terrorist group with state connections, examples being Al Qaeda and the Al-Jihad. These groups are thought of as global players with global intentions. They are well organized and well financed with a concrete chain-of-command and far-reaching military capability. A large group like Al Qaeda may not be deterred from using biological weapons because they are not as easily retaliated against. A 2003 CIA report has confirmed that many of the 33 designated foreign terrorist organizations and other non-state actors have expressed interest in using WMDs, including biological weapons.<sup>13</sup>

The third source is terrorist groups with more localized goals. These groups can still be quite large with thousands of members, a well-organized hierarchy, and access to millions of dollars. However, they do not have the global reach of the afore-mentioned non-state actors. Further, they do not have the goal of creating large-scale global catastrophes. Their ambitions and reach are on a local level. Examples would be domestic white supremacy groups or the Rajneeshees in Oregon.

To assess vulnerability to biological warfare, states must have a clear definition of this terrorist act. Biological warfare is defined as the intentional use of diseases to affect an adversary's military force, population, crops, or livestock.<sup>14</sup> As is the case for all forms of terrorism, the ultimate goal of a biological attack would be to spread fear or intimidation for the advancement of religious, political, ideological, financial, or personal purposes. Biological agents occur naturally in different parts of the world, except for smallpox due to an eradication program, and can be enhanced for use in weapons. The weaponization process can result in biological agents that are more resistant to vaccines and antibiotics.<sup>15</sup>

For these and other reasons, biological weapons present several unique characteristics that make preparation for a bio-terror attack in an American port a difficult undertaking. Biological agents can be categorized into two main groups: *microorganisms*, which are living organic germs, and *toxins*, which are byproducts of living organisms. Each agent has different characteristics that make it unique, but overall the agents that are the most dangerous are those that are stable in the environment and result in diseases that are communicable.

Managing and overcoming these unique complications are at the core of America's biological terrorism preparedness. To begin with, bioterrorism preparedness is shaped by the nature of a bio-attack. While most terrorist attacks are obvious and cause immediate casualties, a biological attack is likely to go undetected for an extended period of time. Consequently,

infected people may not experience signs of illness until days or even weeks after exposure. This fact in turn delays response and prevents appropriate, time-sensitive medical intervention. Furthermore, failure to detect a bio-agent release allows the possible spread of a contagious illness well beyond the initial site of contamination. These difficulties, while apparent, are being confronted by extensive national programs aimed at early detection of a bio-agent or other weapons of mass destruction and improved surveillance of the patient population presented to public health facilities.

In 2004, the United States' National Intelligence Council issued its third report entitled *Mapping the Global Future*. In respect to terrorism, *Mapping the Global Future* asserts that the next fifteen years will be marked by transition. Terrorist groups will still be very active and will be searching for the means to cause the most damage and incite the most fear. Accordingly, *Mapping* predicts that the biggest terrorist threat to the United States through the year 2020 will be a biological attack.<sup>16</sup> Terrorist groups will continue to use conventional means as the primary mode of attack, but will evolve to use unconventional means such as biological weapons as a way to stay ahead of counterterrorism trends.<sup>17</sup> The report further asserts that the essential factors that have spawned the current-day rise in terrorist activity will not be resolved by the year 2020. Consequently, several trends in the global, political, technological, and religious sectors will serve to nourish an even larger terrorist threat. These trends are given reference in the report as "certainties" and include among others:

- the continued globalization of the world;
- increased number of global firms facilitating the spread of new technologies;
- growing power of non-state actors;
- improved WMD capabilities of several states;
- political Islam remains a potent force; and
- instability spanning Middle East, Asia, and Africa.

These "certainties" mentioned above will aid in creating a bigger global biological warfare threat.<sup>18</sup> The world of 2020 will be greatly connected by improvements in transportation and communication. In turn, advances in technology will allow for the spread of biological warfare capability extending to many countries throughout the world. The increased spread of technology will further result in a vicious cycle of biological warfare advancement. The possibility that one country has a biological program will spur other countries to obtain weapons as a defensive measure. The result is acceleration in biological warfare development and an increase in the potential for agents that are more difficult to detect and defend against.<sup>19</sup>

The beginning of the “certainties” listed above can be traced back to both the events of the recent past and to the events of the present day. In theory, the 1972 Biological Weapons Convention should have created a future void of the threat of biological weapons, but, in reality, the treaty lacked the capability to enforce its own directives. Consequently, it has been possible for countries such as Russia and Iraq to violate the terms of the treaty and develop dangerous stores of weapons. Other recent events have further heightened the looming threat of biological weapons: namely the collapse of the Soviet Union; the admissions of defectors from the former Soviet Union; recent global biological attacks, and the growing evidence that certain “*rogue*” countries have obtained biological weapon capability.

The former Soviet Union was one of the world's foremost developers of biological warfare.<sup>20</sup> Currently, Russia actively participates in all of the world's non-proliferation treaties, and its leaders deny any further development of offensive bio-warfare. However, a great concern over the implications of the former Soviet Union's biological program still exists. More importantly, the ongoing economic and political instability of present-day Russia has increased fears of possible transfer of information or substances to rogue states and terrorist groups.<sup>21</sup>

Moreover, although it appears that Russia has currently curtailed its offensive bio-weapons program, concerns still remain regarding the location of many of its scientists and the security of much of its former stockpile. Since the end of the Cold War, Russia has plunged into a period of political and economic instability. Adding to the crisis, Russian laboratories have not escaped economic pressures and many have closed. Consequently, many skilled scientists have lost their jobs and in some cases, may have been enticed by other countries willing to pay them handsomely for their knowledge and skills. Libya, Iran, Syria, Iraq, and North Korea have all reportedly been recruiting such expertise.<sup>22</sup> Additionally, financial difficulties experienced by the Russian laboratories have resulted in major security deficiencies. Since one of the two World Health Organization sanctioned repositories of the smallpox virus is housed in Russia, it is paramount that Russian stockpiles are accounted for and that they do not end up in the wrong hands.

The scope of the Soviet program and details of its operations have increasingly become available during the 1990s due to the defections of many key officials in its bio-weapons program.<sup>23</sup> Apparently, based on information from these informants, the Soviets used the 1972 BWC to gain advantage over its Cold War rivals. While other countries sought to minimize their programs, the Soviets expanded theirs to the point that in 1989 they had the ability to produce dozens of tons of smallpox virus annually.<sup>24</sup> Their ultimate goal was the development of a “super-plague” to which the West had no vaccine.<sup>25</sup>

As stated earlier, recent evidence has affirmed that several “rogue” countries have acquired or developed biological weapons. The ultimate production and storage of large stores of biological agents is complex and expensive, however, the longer the knowledge is available, the more likely it might be that the information could be circulated throughout other parts of the world. The list of countries believed to be currently developing a biological weapons program is ever expanding. To this day, this list includes Russia, Syria, Iraq, Iran, Libya, North Korea, Israel, Egypt, Cuba, Taiwan, China, Romania, Bulgaria, Pakistan, India, and South Africa.<sup>26</sup> However, there are several other countries in the beginning phases of development as well. Of these countries, many are in regions of historical instability, and no less than five are on the U.S. Department of State’s annual list of state sponsors of terrorism... Iraq, Iran, Libya, North Korea and Syria.<sup>27</sup>

Underlying the global environment of today are several trends that seem to be leading to the increased chance that biological weapons could be used in a terrorist attack. These trends include the globalization of the world, advancements in technology, and the rise in the power of the non-state terror group.

#### Countering Terrorist Threats

Bioterrorism readiness has been a major priority of the federal government since the late 1990’s. However, after the events of 2001, bioterrorism and homeland security have vaulted to the top of the priority list. To combat concerns, the government has made changes to the governmental infrastructure, passed major laws, and implemented many programs.

The first major national undertaking to counter terrorists’ threats is the creation of the Department of Homeland Security (DHS). Created in 2003 from the merger of 22 federal agencies, the primary goal of DHS is securing the United States from a conventional or unconventional attack. The proposed benefit of the DHS is the merger of responsibilities into one all encompassing entity, eliminating agency overlap. In theory, the DHS can delegate power and money in a streamlined manner, proposing efficiency, organization and quicker response to a national disaster. Although its creation does not effectively change the ultimate goals of bio-defense, the DHS serves to make the headway more efficient and organized. In theory, one agency being in charge is more effective than twenty-two. The specific mission of this cabinet-level department is to:

- (A) prevent terrorist attacks within the United States;
- (B) reduce the vulnerability of the United States to terrorism;

(C) minimize the damage, and assist in the recovery, from terrorist attacks that do occur within the United States;

(D) carry out all functions of entities transferred to the Department, including acting as a focal point regarding natural and manmade crises and emergency planning;

(E) ensure that the functions of the agencies and subdivisions within the Department that are not related directly to securing the homeland are not diminished or neglected except by a specific Act of Congress;

(F) ensure that the overall economic security of the United States is not diminished by efforts, activities, and programs aimed at securing the homeland; and

(G) monitor connections between illegal drug trafficking and terrorism, coordinate efforts to sever such connections, and otherwise contribute to efforts to interdict illegal drug trafficking.<sup>28</sup>

The ability to accomplish these seven challenges is still being questioned by many American citizens and by local, state and other federal officials. However, among its many contributions to bio-terror readiness, the DHS, in 2005, introduced the new National Response Plan (NRP). The plan standardizes federal incident response actions by requiring all participating agencies to use the same plan, whether the incident arises from terrorism, man-made emergency, or natural disaster.<sup>29</sup> The end result is improved coordination among all agencies to help save lives by increasing the speed, effectiveness, and efficiency of incident management. The NRP is built on the template of the National Incident Management System (NIMS), which provides a consistent doctrinal framework for incident management at all jurisdictional levels, regardless of the cause, size, or complexity of the incident.<sup>30</sup> State and local agencies are required to adopt and implement the NRP. Beginning in 2006, states will only receive funding provided they have adopted and integrated the NRP.

In countering a specialized threat like a biological warfare act by a terrorist group on one of America's ports, the issue is not one of legalities but of capabilities. To counter such an act requires the combined efforts of local, state, and national agencies. Not only are inspections necessary, random or otherwise, but the development and use of accurate information, intelligence, and knowledge of vessels, cargo, crews, and passengers extend well beyond traditional maritime boundaries. A layered defense through collaborative efforts with local, state, and federal agencies partnered with international entities to identify and counter security risks long before those risks reach American ports is essential. Attaining this goal of total

awareness to obliterate the risks mandates comprehensive vigilance to thwart the vulnerabilities and threats to Americans today and in the future.

The mere possibility of a terrorist attack on an American port mandated the implementation of numerous federal, state, and local programs to prepare the United States in responding to such an attack, not only for economic reasons but also for the assurance that American lives would not be placed in jeopardy or lost. "Project SeaHawk" established in the state of South Carolina is such a program, providing "a test bed for innovative concepts, initiatives, and equipment related to port security."<sup>31</sup> It is a congressionally created and funded pilot program in the Department of Justice, functioning under the United States Attorney's Anti-Terrorism Task Force in South Carolina. Established as a law enforcement task force, it has created interagency cooperation, joint operations, unity of command under NRP/NIMS and Incident Command System (ICS), and the sharing of information, resources and intelligence among the participating agencies. This provides protection and deterrence against acts of terrorism for port and intermodal transportation. Project SeaHawk's legislation stipulates that "the pilot will provide a national model for cities that experience heavy volumes of intermodal traffic by establishing a streamlined process to address criminal activity that may compromise or impede the movement of intermodal traffic within the U.S."<sup>32</sup>

*The Charleston Post and Courier* reported on December 13, 2005 a staged incident to test that port city's readiness in case of a terrorist attack involving a weapon of mass destruction. Local emergency workers responded—a "fairly complex" drill. This was the 24<sup>th</sup> terror response exercise held in South Carolina in the past 22 months. Participation included more than 300 people from some 40 regional, state, and federal agencies. The Homeland Security officials called the state's coordination of regional, state, and federal agencies a great example. SeaHawk, the first of its kind project, is made up of 50 local, state, and federal agencies as well as private contractors. After the mock attack, local emergency preparedness agencies complained of "communication difficulty" which prevented crews' quick responses.

In that the covertness and incubatory nature of biological terrorism places public health officials as the first responders to an incident, doctors, nurses, clinical workers, and hospitals will be the first to recognize an epidemic and will be responsible for alleviating the consequences. Consequently, healthcare workers need to be trained to recognize the symptoms of an outbreak. They need the medicine and equipment to treat infected patients. They need the ability to communicate risks and information to the public. Furthermore, hospitals need plans in place to address issues to include quarantines and protection of its employees.

All of these provisions are vital parts of bioterrorism preparedness and are goals towards which the federal government and the public healthcare system need to be working.

The federal government, working with state and local health care agencies, must prepare to overcome the complications of a bio-attack or other disasters, such as chemical warfare or natural disasters. Accordingly, the goals of the national response to bioterrorism are to detect the release of a bio-agent, communicate findings, control the spread of the epidemic, and to treat the victims. Furthermore, as a foundation to reaching these goals, research and new initiatives are needed to understand better biological agents and to develop vaccines to counteract their effects.<sup>33</sup> The federal government has spurred the process with the passage of several laws and the appropriation of billions of dollars, such as Project SeaHawk. State and local governments are doing their part by crafting relief plans, implementing drills, and directing resources where needed.

The SeaHawk Project focuses on cargo and intermodal transport terror threat and will serve as a model for all other American ports. South Carolina's congressional team, led by Senator Fritz Hollings, helped secure the start-up funds, \$30 million from congressional funding, to make this model a reality and help secure better America's ports from bioterrorist activity.<sup>34</sup>

"SeaHawk is the first—and so far only—counter terrorism task force in the country to investigate and respond to threats where the nation's waters meet the roads, where America is thought to be most vulnerable to terrorism and other international crimes."<sup>35</sup> The Department of Homeland Security and the Department of Justice devised Project SeaHawk as a way to uncover security holes that could make it easier to turn commerce-generating cargo into terrorist weapons. Officials wanted a single test site, somewhere they could watch the project either succeed or fail before launching it nationwide.

Many experts believe seaports or intermodal linkages are among the next most likely targets. If a terrorist has decided to bring a weapon of mass destruction, such as a biological agent, into the country, or ship one into the heartland of America, one would use a container. The odds are that no one would be the wiser. The result would be death and economic destruction.<sup>36</sup>

"In an effort to prevent this and to harmonize the efforts of various law enforcement agencies (including state and local police), an Anti-Terrorism Task Force was established within each United States Attorney's Office. Since that time, the Department has formulated a Strategic Plan. Its first goal is to protect America against acts of terrorism, and the first objective in obtaining that goal is to prevent, disrupt, and defeat terrorist operations before they occur."<sup>37</sup>

Therefore, the United States has had an ongoing struggle with its biological warfare policy to achieve the appropriate level of development in countering terrorists' threat. During the twentieth century, it seemed necessary to "outrage" other countries in WMD proliferation as a means to intimidate and thwart possible attacks. However, this tactic is dangerous and creates a global environment of instability and uncertainty. For over thirty years, America has not had an offensive program in biological warfare; all offensive biological warfare research, development, and production was stopped in 1973. The emphasis is on a more defensive posture, with focus on a retaliatory level of preparation. In other words, America will not attack a country using biological weapons, but America must be prepared to both anticipate and respond to an attack. Therefore, even though during the Nixon administration federal laws were passed ensuring world powers that the United States would never use biological weapons of mass destruction even in retaliation, it is important to paint the picture that America is aware and vigilant to international terrorists who have the potential to use biological agents. As can be learned from the admissions of Iraq and Russia, Biological and Toxin Weapons Convention (BWC) signatories, treaties and mandates cannot be trusted to limit the ambitions of countries set on acquiring biological weapons without inspection and verification. This fact, combined with recent evidence that certain rogue states may have biological weapons programs, would make it imprudent for America not to explore every option that ensures American safety.

An important concept here is that preparation and response must be closely coordinated between all local, state, and federal entities involved. Although the federal government creates the initiatives and controls funding, it is vital for the federal agencies to include the local agencies in decision-making. Preparation may be initiated at the federal level, but the actual implementation of the plans is performed at the local level. Local officials must be able to adapt and manipulate an appropriate response suited for the unique threats to their individual cities. Lastly, communication is probably the most vital element of a response. If a speedy and effective response is to be mustered, all agencies must be working and communicating effectively together. As the current Secretary of Homeland Security Michael Chertoff stated, "the physical damage associated with a horrific WMD terrorism attack has to be managed through a coordinated public affairs messaging across all levels of government, every one in sync, every one on the same message explaining ground truth about what is happening and what is not happening, and then fashioning a coordinated set of public—or communications to the public—so we can get our arms around the incident and begin the lifesaving process and minimize the panic and public perception on a negative sense."<sup>38</sup>



As Americans are cognizant today, the terrorist attack on American soil of 2001 propelled the Federal government into a state of overhaul to enable it to respond at the federal, state, and local levels. Communicating truthful messages to the public is a must. Maritime security programs and land security programs and initiatives had to be put in place to respond better in order to combat the evolving threat in the War on Terrorism. The attacks on the World Trade Center highlighted several areas of weakness in America's plan to counter a terrorist attack. Further, communication to the public from government agencies and responders (fire department, police department and emergencies medical personnel) after a terrorist attack proved inefficient at best. The government has since implemented many programs designed to strengthen these deficiencies and weaknesses. A tremendous amount of this focus has been directed to bioterrorism defense, and in the four years since 2001, across-the-board improvements to the nation's bio-defense capabilities have both been undertaken and planned for the future.

#### Responding to the Threats: Ameliorating the Vulnerabilities

Since 2001, America has spent nearly 20 billion dollars on national bioterrorism preparedness to combat such groups. Despite this tremendous allocation of funding, many experts assert that America is still not prepared for an effective response. Recently, retired Secretary of Homeland Security Tom Ridge declared that bioterrorism is his greatest fear for the future, but that the United States was not where it should be as far as preparedness is concerned.<sup>39</sup> Irwin Redlener of Columbia University's National Center for Disaster Preparedness echoed Ridge's comments contending, "We're almost four years after 9/11, and we've made maybe six months' worth of progress."<sup>40</sup>

In 2004, the Trust for America's Health (TFAH) published a report entitled "Ready or Not? Protecting the Public's Health in the Age of Bioterrorism 2004."<sup>41</sup> TFAH defines itself as a non-profit, non-partisan group concerned with protecting the lives of all citizens by making disease prevention a national priority. The 2004 report was the second produced by the group on this topic and followed the guidelines introduced in the first report conducted in 2003. "Ready or Not" examined the progress made in bioterrorism preparedness in the time since 2001 and outlined both the improvement and the deficiencies that may still remain.

The TFAH report concluded that although federal funding had improved certain measures such as emergency communications and laboratories, marked deficiencies still existed in vital areas such as resources, workforce shortages, and in the communication systems between

federal, state, and local agencies. Furthermore the report asserted that a lack of standardized and national accountability measures threaten future readiness.

“Bioterrorism preparedness still lacks strategic direction, well-defined priorities, and appropriate levels of resources to match the needs. A review of the remaining gaps that exist, three years after improvement efforts began, begs the conclusion that bioterrorism and public health preparedness have not been treated as serious, top national priorities.”<sup>42</sup>

#### National Policies/Programs in Place/Required to Secure American Ports

“Maritime security will be best achieved by blending public and private maritime security activities on a global scale into an integrated effort that addresses all maritime threats. The new National Strategy for Maritime Security aligns all Federal government maritime security programs and initiatives into a comprehensive and cohesive national effort involving appropriate federal, state, local, and private sector entities.”<sup>43</sup> The United States must respond to an attack using the structures and initiatives set forth in the National Response Plan and the National Incident Management System. Firstly, in the aftermath of a terrorist attack, the response will be the local community, the port city, where the attack occurs. Police officers, firefighters, emergency medical personnel, and emergency management officials will be on the front line. These citizens may have limited capabilities within the maritime domain, depending on the agent used in the attack. Therefore, rapid-reaction forces are needed to support first responders with capabilities to respond to WMD and other terrorist incidents that could occur in or near a port city. These response forces will coordinate the expertise and resources of the public and private sectors. They need to be trained, organized, equipped, and exercised to operate in contaminated environments and manage the consequences of WMD incidents. They must have the ability to detect and deploy harmful chemical and biological agents as well as conduct casualty extraction and mass decontamination in the maritime environment.<sup>44</sup>

The 2002 U.S. National Security Strategy (NSS) focuses on the efforts in strengthening America's homeland security, focusing on bioterrorism as the point of departure for improved emergency management systems. Medical agencies from local hospitals to the Centers for Disease Control and Prevention are charged with preparing for bio-terror as well as responding to infectious diseases and mass casualty threats. Additionally, the 2002 National Strategy for Homeland Security (NSHS) is the umbrella for numerous emergency preparedness and response initiatives and programs to ensure the safety of American citizens. The bioterrorism amendments (2001 and 2002) to the Public Health Service Act require specific actions in response to a bioterrorist act and authorize funding for related programs. The NSHS initiatives

combined with the directives and allocated resources in the amendments of the Public Health Service Act should provide better levels of emergency medical preparedness and response and alleviate our vulnerability to terrorist groups desiring to bring harm to America. The NSHS sets up the critical need for an integrated and deliberate strategy for the U.S. to be totally prepared for countering weapons of mass destruction; the National Strategy to Combat Weapons of Mass Destruction details a WMD strategy based on the foundation of counter-proliferation, non-proliferation, and consequence management response.<sup>45</sup> Interagency coordination and collaboration of these programs executing these policies is perhaps the single most critical strategic element in bioterrorism preparedness and response.

#### Reducing the Threat with Adequate Resources

Admiral Thomas Collins, commandant of the Coast Guard, testified to Congress in 2003 that it would cost over \$1.3 billion that year and another \$7.3 billion over the next 10 years to implement the Maritime Transportation Security Act of 2002.<sup>46</sup> John Lehman, former Navy secretary, testified to Congress in 2004, acknowledging that “serious under-funding” for port security and the Coast Guard (the federal agency responsible for port security) exists.<sup>47</sup> However, the U.S. Congress has failed miserably, according to many, to appropriately fund these calls for help. Congress provided \$425 million for FY 2003 to FY 2005 in port security grants.<sup>48</sup>

Urgent port security needs were underscored when the DHS Office of Inspector General released a report that stated, “Improvements are needed in the inspection process to ensure that weapons of mass destruction or other implements of terror do not gain access to the U.S. through oceangoing cargo containers.”<sup>49</sup> Unfunded federal mandates for port security seem to be the practice even to this day.

#### Conclusion

Whether it is a natural disaster such as Katrina or an act of terror as witnessed by 9/11, homeland defense is the top issue facing our nation in the 21st century. The new reality is that our nation is vulnerable to terrorist attacks on its people, infrastructure, and economy.<sup>50</sup> Moreover, with the ever-growing possibility of future terrorist attacks, the threats posed to America’s seaports are even greater. The maritime domain in particular presents not only a medium by which these threats can move, but offers a broad array of potential targets that fit the terrorists’ operation objectives of achieving mass casualties and inflicting catastrophic economic harm.<sup>51</sup> The likelihood of its occurrence is not farfetched. For terrorists, “successful attacks in the maritime domain provide opportunities to cause significant disruption to regional

and global economies. Today's terrorists are increasing their effectiveness and reach by establishing links with other like-minded organization around the globe. Some terrorist groups have used shipping as a means of conveyance for positioning their agents, logistical support, and generating revenue."<sup>52</sup>

For terrorists seeking to inflict massive harm on the United States, international cargo transport serves as a viable target particularly in that there are so many points of vulnerability.<sup>53</sup> The sheer amount of material being transported through ports creates the largest challenge: millions of shipping containers carried on thousands of cargo ships, arriving in hundreds of ports with dozens of methods to damage infrastructure, disrupting world economy and bringing death or infection to many thousands of Americans. With such a mass of transport, "today just 4 to 6 percent of shipping containers arriving in U.S. ports are inspected."<sup>54</sup> Slowing the flow long enough to inspect all or a statistically significant random selection of imports would be economically intolerable.<sup>55</sup> To compound the situation, most ports are vulnerable to attack because they are inadequately protected and in many ways ill-prepared in dealing with such a major catastrophic event were it to occur.

While major efforts and initiatives are directed at improving port preparedness—greater emphasis needs also to be focused on building maritime security coordination into the wider homeland security picture. Let one not be fooled; although measures are in place and progress has been made in the development and implementation for viable approaches to address response capabilities and preparedness, there still remains a lot of work to be done. And while progress is being made, an effective port security environment may take years to fully address. Project Seahawk, a congressional funded project is the first of its kind, and offers the first test bed pilot to tackle the issues of port security and its vulnerabilities to attacks and identify gaps to fully meet requirements to combat posing threats to ports.

As reports can account, many of the existing security measures however are inadequate according to what the Coast Guard and independent experts have reported. Withstanding this fact, implementation of security goals is irregular and poorly directed. For these reasons, and countless others, port security experts like Stephen Flynn, is concerned that "it's just a question of *when*, not *if*, terrorists will exploit maritime containers to do harm in the United States... There's no question the system is open and vulnerable."<sup>56</sup>

To ensure for the security of our international ports, "three challenges are central to successful implementation of security enhancing initiatives at the nations ports—standards, funding and collaboration."<sup>57</sup> However, for all of America's initiatives to combat terrorism, sufficient steps have not met the requirements in an effort to make ports and shipping safer and

more secure. More specifically, America has not put forward a comprehensive strategic plan and sought to implement it through executive branch regulation and congressional action. Nor has it allocated the necessary federal funds needed to fully tackle the problem at hand or confront the myriad of bureaucratic challenges and coordination issues. Lastly, it has not reached out aggressively to all its stakeholders to include shippers, port authorities, local authorities, and foreign ports. The real tragedy is that this inaction has occurred in the face of known terrorist dangers that could, if successful, have catastrophic consequences for the nation.

#### Endnotes

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<sup>33</sup> Ted Agres, "BioShield Outlined: New Drug and Vaccine Initiative Includes Broad Government Power to Speed Research and Use," *The Scientist* (4 February 2003), available from <http://www.biomedcentral.com/news/20030204/03>>21 October 2004; Internet; accessed 25 July 05. New Research Development and Initiatives: Since 9/11, the federal government has established a number of initiatives that position America in a state of better preparedness than it was pre-9/11. Seven of those initiatives are: The New National Response Plan: As part of the 2006 pre-requisites for HRSA funding, states must adopt the Department of Homeland Security's new response plan that standardizes the nation's response to a national disaster. Project Bioshield: Project Bioshield is a 10-year, \$5.6 billion program to develop and produce new vaccines and countermeasures against potential bio-weapons. It allows for incentives for private companies to research and develop bioterrorism countermeasures, expedites research and development at the NIH, gives FDA approval to administer unproven drugs in the event of a crisis, and creates a fund for government purchase of vaccines needed to respond to an attack. The first initiative enacted under Project Bioshield was an \$877 million agreement with Vaxgen Incorporated to produce 75 million doses of anthrax vaccine. Future plans include federal purchases of a plague vaccine, botulinum vaccine, anti-radiation drugs, and chemical antidotes. Common concerns with the program exist around a failure to address liability concerns of the drug companies, which could be sued due to adverse side effects, or lack of efficacy. As a result, fewer than 100 companies have expressed interest. Project Bioshield II: The bill builds upon the first BioShield bill. Bioshield II would provide additional liability protections for firms creating vaccines or drugs that could cause injuries. Strategic National Stockpile (SNS): The SNS is a joint initiative between HHS and DHS, providing a national repository of antibiotics, chemical antidotes, antitoxins, medical supplies, and equipment in the case that local reserves are exhausted. Certainly it is not a first-response tool, but is meant as a supplement and would be deployed in "push packages" to any area of the U.S. within 12 hours providing enough medicine to supply several large cities at the same time. Smallpox Vaccination Program: HHS now requires states to be prepared to immunize the entire population within ten days and this program has enough smallpox vaccine available to vaccinate 300 million individuals. This vaccine is included in the national stockpile. As of 10/31/04, South Carolina had 998 individuals vaccinated, which accounted for a rate of 1:4155. Cities Readiness Initiative (CRI): This initiative is a coalition of federal agencies led by HHS in June 2004, involving DHS and the U.S. Postal Service. The CRI involves a pilot program to help 21 cities across the U.S. to put in place a well-developed and coordinated plan for responding to terrorist attacks or other public health emergency. According to the HHS, the goal is to aid cities in increasing their capacity to deliver medicines and medical supplies during a potential large-scale catastrophic event. An interesting aspect of this initiative is the use of postal workers to distribute medical supplies. Of the 21 original cities, South Carolina did not have one (Atlanta was the closest). In May 2005, it

was announced that the CRI would be expanded to fifteen more cities: South Carolina cities were not included among this list either. Laboratory Response Network: This network maintains an integrated national and international network of laboratories that are fully equipped to respond quickly to acts of chemical or biological terrorism, emerging infectious diseases, and other public health threats and emergencies. It became operational in 1999 and links state and local public health, federal, military, and international laboratories that can respond to emerging threats. At that point, the linking of state and local public health laboratories, veterinary, agriculture, military, and water-and-food testing was unprecedented. In summary, bio-defense measures can be categorized into three main groups. The first group includes funding allocated under the control of Health Resources and Services Administration (HRSA). These initiatives can be summarized as measures to aid hospitals in responding to bio-attack. They range from providing surge capacity capabilities to hospitals, such as bedding and respirators, to training for local health workers to respond to a bio-terrorist attack. The second group includes funding to help state public health communities prepare for and respond to public health emergencies. The third group includes national measures controlled by the federal government such as the Strategic National Stockpile and the Bioshield project. The CDC controls the last two groups.

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